

Stateside Care of Marines and Sailors Injured in Iraq at the National Naval Medical Center in Bethesda, Maryland

Loretta J. Aiken, RN, MSN*,
Patrice Bibeau, RN, MSN, CCRN, CDR, NC, USN,
Barbie Cilento, RN, M Ed, MSN,
Eddie Lopez, RN, MSN, LCDR, NC, USN

National Naval Medical Center, 8901 Wisconsin Avenue, Bethesda, MD 20889-5600, USA

The National Naval Medical Center (NNMC) is located in Bethesda, Maryland, just outside of Washington, DC. It is often referred to simply as “the Naval Hospital” and is considered by the US Navy to be the flagship of navy medicine [1]. This world-renowned teaching hospital complex has provided care to war heroes serving in the United States military for more than 65 years. It is also referred to as “the President’s Hospital,” whose mission is to assure the readiness and care of the uniformed services and their families [1].

Before the start of the current conflict, it had been several years since the United States was involved in major combat operations. As a result, health care providers had limited experience in treating traumatic injuries associated with war fighting and the sequelae of infection and sepsis. Early lessons were learned in 2003 aboard the United States Naval Ship Comfort Tanker–Auxiliary Hospital 20 while treating primarily Iraqi soldiers, civilians, and some members of the coalition forces [2]. For the first time, many of the ICU team members were exposed to patients

who had gunshot wounds, traumatic amputations, open and closed head injuries, blunt and penetrating blast injuries, burns covering a large body surface area, acute respiratory distress syndrome, and sepsis. Those experiences helped refine the approach taken to care for the service members and civilians who are critically injured and arrive at NNMC by way of the US Air Force Medical Evacuation (MEDEVAC) system.

More than 1600 casualties have been admitted to NNMC from Operation IRAQI FREEDOM/Operation ENDURING FREEDOM (OIF/OEF) [3]. Not all the casualties have been admitted to the critical care department; however, those requiring comprehensive multidisciplinary medical care are admitted to the ICU. The injuries sustained have been severe, often changing lives forever. Many of the wounded have survived, whereas a few have not. Whatever the outcome, the health care team has continuously provided state-of-the-art trauma support to the wounded, and psychosocial support to the patient and his/her family. Additionally, “care for the caregiver” assistance is available for the multidisciplinary team, whether provided formally, through counseling services available from Psychiatry or Pastoral Services, or informally, through the verbalization of their experiences with colleagues, family members, or friends. In either instance, nurses use various means to cope successfully with the multisystem, trauma patient population from OIF/OEF.

The views expressed in this article are those of the authors and do not reflect the official policy of the Department of the Navy, the Department of Defense, or the US Government.

* Corresponding author.

E-mail address: Loretta.Aiken@med.navy.mil
(L.J. Aiken).

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 2008		2. REPORT TYPE		3. DATES COVERED 00-00-2008 to 00-00-2008	
4. TITLE AND SUBTITLE Stateside Care of Marines and Sailors Injured in Iraq at the National Naval Medical Center in Bethesda, Maryland				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) National Naval Medical Center,8901 Wisconsin Avenue,Bethesda,MD,20889-5600				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 10	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

The ICU nursing staff has encountered several casualties, evoking various emotions in response to the devastating injuries sustained by the wounded service members. The resilience of the health care team is evident in their daily interactions as they consistently maintain professional composure while providing compassionate, patient-centered care despite the inherent challenges. Some nurses and other members of the trauma team have spouses, brothers, and friends serving in Iraq, which makes them even more dedicated to providing the best nursing care to the wounded warriors.

MEDEVAC admissions are intense times and require the nurse to put aside his/her emotions to provide the best care possible. The entire nursing staff demonstrates tireless skill and expertise while providing demanding physical nursing care and addressing the psychosocial needs of the patients and their families. Such nursing care is truly an art.

The reception of these casualties has become systematic and refined to a science. The team's response depends on the number of casualties and the types of injuries they have sustained. Information about an incoming wounded warrior is relayed by the MEDEVAC office in the form of the patient movement report. This report contains a brief history of the mechanism of injury, the procedures, medication, and therapies, and the patient's condition. The patient movement report can be available from days to hours before the patient's arrival and it is what directs the team's action and initial plan of treatment. One to three Critical Care Aeromedical Transport (CCAT) casualties are expected on most MEDEVAC flights, but there can be more. To date, the highest number of CCAT casualties received for one mission has been seven. The medical center is able to admit and care for this high number of casualties safely and expeditiously because of the streamlined admission process.

First hours

When the wounded arrive at NNMC, a well-orchestrated team approach is implemented to meet the patients' needs and promote the best possible outcomes. Wounded service members are initially admitted to the Trauma Service, whose members consult with various subspecialties, allied health professionals, and administrative staff. A collaborative approach is used by the team to develop an individualized plan of care. An ideal ICU admission team is composed of three staff members, including a minimum of one

registered nurse (RN) and two hospital corpsmen, which is the navy title given to enlisted personnel assigned to the medical occupational specialty that provides patient care under the supervision of licensed medical providers; other branches of the armed services refer to them as medics. A respiratory therapist must be nearby to manage intubated patients and those demonstrating respiratory difficulties. Also, the administrative staff is equally important, to assist with telephone communications, transport laboratory specimens, and support family members and other visitors.

Newly arriving patients can require 1:1 or 2:1 nursing care for extended periods of time because of the severity of the injuries, hemodynamic instability, or labor-intensive diagnostic procedures; therefore, adequate staffing is crucial. The MEDEVAC aircraft usually arrives in the evening from the US Army's Landstuhl Regional Medical Center (LRMC) in Germany. The patients are then transported from nearby Andrews Air Force Base, Maryland, to NNMC by ground ambulance, arriving in the ICU approximately 1 hour later. The evening arrival time occurs around the change of shift, which provides maximum support because personnel from both the day and night shifts are present. The day shift staff is sometimes asked to stay late and the in-coming shift is called and asked to come in early. Some staff members who are not scheduled to work may be asked to come in for a 4- to 6-hour period. In these situations, the nursing staff eagerly volunteers.

The day shift charge nurse plans room assignments for each patient by considering the acuity and monitoring equipment that will be required. Once rooms are assigned, the corpsmen start to prepare for the admission. The rooms are stocked with a limited amount of supplies and equipment to minimize waste and decrease the likelihood of cross-contamination. A set of documents is stamped with the patient's data using a preadmission addressograph card to ensure accuracy and completeness. Isolation carts, culture bottles, culture swabs, and biowaste containers are available in each room.

The ICU is divided into two identical ten-bed sections (pods), with five rooms on each side of a hallway. Large fire-safety doors separate these units. Because of the prevalence of *Acinetobacter baumannii* in the soil of Iraq, whenever possible, patients are admitted into only one of the 10-bed pods of the ICU to keep one unit as an isolation unit and the other as a "clean" unit. All patients from Iraq are considered contaminated with *Acinetobacter*

baumannii, which could compromise other patients. Therefore, on arrival, the injured are immediately placed on contact and droplet precautions.

As the casualties come into the ICU, the Air Force medical personnel caring for each patient are directed to the specified room. Patients arrive minutes apart in a span of a half hour and are in various medical conditions, from stable to extremely critical. The charge nurse, nursing supervisor, and medical support assistant page the physicians and facilitate the administrative admission process. For each patient, the scenario is similar: the primary RN receives a report from the Air Force medical personnel and performs a quick visual assessment of the patient. The patient movement report information specifies ventilator settings, intravenous fluids, and medications for the transition from the transport equipment to the bedside devices. The patient is quickly removed from the litter, placed into the ICU bed, and connected to the monitors. While some ICU staff members acquire a set of specimen samples and cultures to include blood, sputum, skin, urine, and wound, another staff member begins to expose the patient by removing dressings and bandages so that the providers can perform thorough assessments related to their specialty. The physician teams focus on the immediate treatment of the patient and write the orders for each individual intervention based on the type of injuries seen. The nursing staff then activates the orders.

In the ICU admission process, the nurse begins the patient's reorientation immediately by introducing himself/herself. At this point, the nurse tells the patient where he/she is. At the same time, the first part of the nursing assessment is started. Observations are noted and documented as to the patient's physical and psychologic status, which can be a very emotional time for the nurse because he/she is viewing the young person and inspecting the debilitating injuries that can become fatal or life altering. Some of these patients are not much younger than the nurses taking care of them and some of the nurses have siblings that are the same age as some of the injured. It is also especially hard for the corpsmen, because they are even younger than some of the nurses and more likely to be the same age as the wounded warrior (Figs. 1 and 2).

ICU course

Depending on the patient's injuries, the next few hours can be extremely busy. For traumatic

brain injury patients, trips to CT scan occur as soon as possible. These trips require the ICU RN, a respiratory therapist, a physician, and a corpsman to accompany the patient off the unit for 45 to 60 minutes. For those with extremity fractures or joint injuries, multiple radiographs are performed at the bedside. Some warriors require 10 to 20 films each. After completion of the initial assessment, immediate procedures or surgery may be required. As a result, the ICU team may need to transport the patient to multiple departments at a moment's notice.

Nurses provide the minute-to-minute, hands-on care and observation that is vital to the patient. During the first few hours that the injured warrior is stateside, the nurse-patient-family bonds are formed. Families are pivotal in the recovery process and are encouraged to interact with their loved ones. One way to try to elicit responses from the patient is to bring the family members into the room as soon as possible. They are informed of the patient's condition and status, and they learn what to expect when seeing their son or daughter for the first time. For some, this step is really difficult. All the worry, fear, and extreme emotional distress can be a big shock when they see their loved one in such a compromised state. In all scenarios, the nurse is the primary support and provides a shoulder to cry on when needed.

After the reality of the situation sets in, the family members demonstrate various responses to the injury of their loved one, including grief, anger, and denial. They know their loved one is ill and may not make it through this critical time. From the onset, the nursing staff plays a fundamental role in assisting family members with their emotional responses. Visiting hours are open (24/7) to allow family members the time needed to begin to deal with the situation at hand. An open dialog is also instrumental to a successful recovery, and so the nurses keep the families abreast of new developments in the patient's care. As a result, it is common for family members to consider the nurse as their contact for all medical information regarding the patient.

Because the RNs work 12-hour shifts three or four times a week, nurses are the constant focal point for the family and share the emotional experiences they have to endure. The patient and family are considered to be one family unit and care is directed to keep them all informed. Nurses sometimes joke about the "mini medical school education" they provide. The families become very involved with every single aspect of the care



Fig. 1. Multisystem trauma ICU patient with traumatic brain injury from OIF conflict.

and can readily quote laboratory values, radiograph results, temperatures, surgeries, antibiotic levels, and culture results.

Many times, the families become attached to a particular nurse and may become distant with other nurses during that individual's day off. It is not uncommon for this nurse to experience feelings of guilt on leaving at the end of the shift because of the bond that has been formed. Some family members become wary of other nurses who are unfamiliar to them. As a result, the nurse and the family learn to deal with the complexity of the patient's injuries and have to work through their own profound feelings of anxiety and fear of what might happen during days away from the particular patient. Consequently, it is not at all uncommon for nurses and family member to stay in contact for years after the relationship develops in the ICU.

Injuries of the war wounded in critical care

The OIF/OEF conflict has lasted 4 years, and there have been peaks and valleys in the number of wounded arriving each month. The staff at NNMC constantly learns from these war experiences and they make improvements in the

management of trauma from battle injuries and other injuries associated with military duty. Military medicine has broken new ground in the treatment of head injuries, blast injuries, fracture care, infectious disease management, and pain management.

Blast injuries are by far the signature injury of the Iraq War and can cause multiple levels of trauma. For example, a humvee may be hit by a round of mortar fire that propels the vehicle many feet into the air. Projectiles, clouds of bacteria-laced debris, and fire can cause the troops to be maimed. Shell shock can be generated from a blast wave of high pressure spreading 1600 feet per second [4], which results in an acceleration-deceleration injury to the brain [5]. The movement of the brain matter inside the skull causes bruising at multiple sites, edema, and pressure, and possible bleeding within the closed vault. The occupants not only suffer blast injuries but also major impact injuries because of the sequences of events. Added to that scenario, the service member might be rescued from the vehicle and then be subjected to the additional trauma of gunshot wounds from sniper fire.

Battle wounds can be sustained from many different mechanisms, but the most devastating injuries by far are those resulting from the



Fig. 2. ICU RN assessing critically ill trauma patient, and equipment.

improvised explosive devices (IEDs). Some of the service members experience traumatic brain injury, without visible wounds, just by being in close proximity to repeated explosions. The constant barrage of blast noise generates waves of sound that can rupture eardrums and cause brain injuries. The noise can be caused by grenades, missiles, IEDs, mortar rounds, or the gun shot sounds of fire fights and snipers. Service members have coined the phrase, “having my bell rung,” when they discuss their traumatic brain injuries from blast explosions.

Severely head-injured patients come to NNMC and present with their own set of challenges. Their neurologic status is difficult to assess because of heavy sedation during the flight, and the extent of head injury is not well known until the massive swelling of the brain subsides. Neurologic care of the traumatic brain injury patient has shown remarkable advances since the beginning of the war. At local field hospitals in Iraq, neurosurgeons perform surgery immediately to reduce the

extent of swelling of the brain (eg, a procedure known as “craniectomy” surgically removes part of the skull, allowing the brain to expand).

The nursing care for these patients may necessitate bedside intracranial monitoring and brain oxygen tissue and brain perfusion monitoring, in addition to keeping track of everything else a severe critical care patient needs. Adding all that to the many trips to CT scan, Angiography, MRI, and the operating room, the person-hours and staff effort is astonishing, keeping in mind that these new technologies require RNs to possess advanced knowledge of these types of interventions. Sometimes, the nurse may have no idea if the patient is able to comprehend what is being said but will repeatedly tell the patient that he/she is back in the United States at NNMC.

Pain relief is of utmost importance to adequate care of the wounded. Because of the nature and severity of war injuries, major advances have been made in pain management. By using local blocks, intravenous narcotics, sedation, infusion catheters

(eg, patient-controlled analgesia and epidurals), low-dose ketamine infusions, oral methadone, and topical narcotic patches, great strides have been made in the way pain is controlled. Pain medication balls or similar devices are commonly used to bathe wounds with a continual wash of local anesthetic to dull the acuteness of pain. New technology has been implemented and is constantly updated to ensure everything possible is being done to alleviate pain.

Because of the large numbers of blast injuries that result in bone, muscle, and tissue loss, knowledge has been gained in the way we manage amputation injuries. To be classified as an amputation, the whole hand, arm, foot, or leg must be totally gone. Digits do not count as amputations. Body armor can protect the torso, but limbs are highly susceptible to devastating trauma from blasts. Bereavement and coping are two major issues war fighters face with all amputation injuries. Some can end up in severe emotional turmoil because of their loss, and many disciplines interact with patients and families to help with their acceptance of their injuries.

Traumatic brain injury service members require frequent reorientation and the staff has to remind them repeatedly that they are safe and back in the United States. Many have no recollection of their injury or even their MEDEVAC flight. The last thing they might remember is the heat of battle. Their next cognitive moment may be days or weeks later and several thousand miles from the battlefield. The staff caring for the war wounded tells them what has happened and keeps them informed of what is being done for them. In just about every case, medical personnel and commands from the field in Iraq will call to check on these servicemen and women. The injured may never realize that, all along the long route home, possibly hundreds of people have worked with precision and dedication to get them back to NNMC. The Air Force transport team even leaves them a small guardian angel pin and a note about the transport back to the United State. These pins are a way for the flight staff to communicate to those they watched over during the flight.

Many warriors are unaware of the extent of their injuries until they are awakened at NNMC. Most of them have been intubated and sedated from the time of their injury in the battlefield up until they are safe in the ICU setting. When he/she is awake enough for ventilator weaning, the wounded warrior is apprised of the battle wounds

by the medical staff. The health care team is always sensitive in relaying this type of information because it can be devastating to the service member. Family and nursing support is essential at this time, and many times, pastoral support is used to assist the patient and family with the emotional response to the altered body image.

Services provided to the patient and family

Marine and navy officials notify family members of the patient's injury as soon as possible. Sometimes, in cases of severe injuries, a family member will fly directly to Germany and accompany the transport flight back home. Up to three family members may have transportation from their homes paid for by the Service. The liaisons make accommodations either on the base or as close to the base as possible. They provide transportation for the family members to and from the hospital. The base has two Fisher Houses (which are analogous to the Ronald McDonald houses in the civilian sector), a navy lodge (motel), and two barracks to house families. On occasion, family members arrive before the wounded warrior does and are sometimes waiting in the hallway to give words of love and comfort as the patient first arrives in the ICU.

Because of the number of wounded who have been at NNMC, we have learned that for the patient to recover, the family also needs to be cared for. The entire staff at NNMC makes every effort to help the families in crisis. Some family members need more help than others, and the army, navy, or marine liaison and social workers help with referrals to the Navy Marine Relief Society. This society assists with all types of loans, bill payments, transportation, and other needed services. Sometimes the family is even given temporary use of a vehicle, which is donated for family members' use during their long stays at the hospital center.

The social work and case management departments at NNMC are vital in the recovery process. The social worker, discharge planner, and case manager develop a comprehensive plan that includes integrating each health care discipline's recommendations into the overall discharge plan. These disciplines assist with allocation of resources to carry out the plan and help with the appropriate referrals and necessary consultations. They also meet with family members to help with logistics related to food, lodging, pre-existing family

conflicts, and the impact of the injured warrior's condition on the various family members.

When a wounded service member arrives at NNMC, he/she receives a quilt that has been made by one of the chapters of the Quilts for Valor organization [6]. Attached to each quilt is the name and hometown of the maker, and a personal note to the wounded warrior who is receiving it. These quilts are just one example of the many dedicated individuals throughout the country who support the troops.

A well-known athletic shoe company provides each wounded warrior a voucher for one pair of new shoes. One organization donates backpacks that contain personal care items such as toiletries, shaving gear, nail clippers, music CDs, books, gum, bar candy, and snacks. All returning injured servicemen are given a gift certificate to purchase uniforms or personal clothing items. Often, wounded warriors are given pillows, CD players, or other small electronic devices, not to mention the personal gifts from music performers or Hollywood personalities. Video movies, movie passes, autographs, photographs, and memorabilia are handed out by visiting celebrities. Holiday meals, family parties, and gala special events have been planned, catered, and served by large hotels and local food establishments. Churches have donated food, clothing, and all sorts of items for patients and family members. Beauty shops supply complimentary gift certificates for wives and mothers, and hotels often provide free accommodations for families of war wounded. The contributions are far too many to mention, but all efforts from the various support groups are appreciated by families and service members.

Family members often refer to the stays at NNMC as the "perpetual crisis state" because the road is always bumpy and uncertain, so NNMC attempts to reduce the stress with various activity diversions for the families. NNMC has an avenue of shops on the first floor by the main cafeteria that families frequent. Although not quite a shopping mall, it allows them to browse boutique items from street vendors, go to the Navy Federal Credit Union to conduct financial business, check out books from the base library, or even visit the barber shop or uniform store. The Navy Federal Credit Union will send bedside representatives to discuss financial matters with wounded warriors and their families. Café Leisure is a recreational service used to help break the monotony for family members being away from their homes.

The café offers some type of entertainment that may include a movie and a dinner. Many movies are available throughout the hospital to help families pass a little time away from the bedside.

Examples of ICU care

It is 0800 on Friday morning and the ICU charge nurse has been notified to expect two MEDEVAC admissions around 1700 in the evening. Both of the admissions are war wounded with injuries from an IED blast. Marine #1 is a 22-year-old who sustained injuries to the head resulting in a subdural hematoma, traumatic amputation of the left leg, and large open wounds to the abdomen and right arm. His left femoral artery was exposed on the battlefield and an immediate tourniquet was applied above the amputation. He was alert at the time of injury but soon lost consciousness when transported to the field hospital. At the field hospital, Marine #1 was assessed and a determination was made to transfer him immediately to LRMC for further treatment. He suffered a cardiac arrest while being transported to Germany but had a return of spontaneous circulation 2 minutes after cardiopulmonary resuscitation effort began. He was placed on a ventilator and vasoactive support started in flight. Because of his blood volume loss, he received a large volume of crystalloids and colloids. Marine #1 was stabilized in Germany, and the neurosurgeon performed a cranioplasty for his head injury. The traumatic amputated left leg needed immediate surgical revision, and the open wounds in the abdomen and right arm were cleaned, irrigated, and drained. Marine #1 is transported to NNMC where he will continue to receive treatment in the ICU.

Marine #2 is a 20-year-old who sustained injuries in an IED blast to his face, eyes, right arm, and abdomen. He has been conscious since the blast. He is unable to see because his left eye was enucleated, and scrap metal is embedded in the right eye and the right side of his face. His abdomen sustained a large wound, where his spleen and part of his liver were removed. He has lost a large volume of blood during the actual injury and successive surgeries. He has been transfused a total of 24 units of blood products and he continues to ooze bloody drainage from his abdomen. He has a large wound on his right forearm that was closed in the field hospital, but he developed compartment syndrome in the right

arm, which has since compromised circulation to the lower part of his right arm. He has been on hourly circulation checks since the hematoma was drained and vascular surgery was performed on the arm in Germany. He is being transported to NNMC's ICU for monitoring of his neurologic and bleeding status.

As both marines entered the ICU, their families were anxiously waiting to see them. The staff of NNMC let the families into the room. It was an emotional time to watch moms, dads, spouses, and siblings plead with their loved one to get better. They survived the ICU course with their families and the staff at the bedside encouraging them each day. They were eventually transferred from the ICU to a poly-trauma Veterans Administration medical facility.

Emotional aspects of care

The ICU staff must be aware of their emotions throughout the patient's ICU course. Emotion is defined as "an affective state of consciousness in which joy, sorrow, fear, hate, or the like is experienced" [7]. Emotions can run high for the patient and family and the nursing staff at any time and consequently, awareness is the key to ensuring the provision of quality care.

The emotional preparation for a patient's arrival is not officially discussed because it is assumed to be part of the job. Many nurses focus on the medical care requirements, commenting on the need for such items as a mechanical ventilator, an intracranial pressure monitor, a neurologic tissue oxygenation monitor, or a basic hemodynamic monitoring system. Obtaining these items is the first step in preparing for the patient's admission, ensuring a smooth transition from the flight line in Germany to the United States. When the room is totally prepared with all these items in order, the staff is then able to ponder the injuries that each patient has sustained. They will discuss the impending admission and strategize a care plan with the multidisciplinary team. Others prepare for admissions by reflecting on the patients they cared for previously and will adapt lessons learned to the current scenario. Their response may not be uniform, but in either instance, a mental preparation occurs to ensure that the patient is admitted, stabilized, and started on the road to recovery. Nurses have learned to use various mechanisms to cope successfully with the multisystem, trauma patient population from OIF/OEF.

One example of such resilience was displayed in the care of a 22-year-old marine who acquired a devastating head injury from shrapnel that pierced his skull during hand-to-hand contact with an insurgent. It was later learned that this young man had jumped on a grenade to protect several members of his platoon, using his Kevlar helmet and body to protect others from the effects of the blast. His heroic efforts were recognized 2 years later by his being the first marine to receive the Medal of Honor since 1970 [8].

This heroic marine was transferred from LRMC by CCAT. His neurologic injuries were identified as devastating at LRMC, yet his parents requested that he be transferred to NNMC for further evaluation. The multidisciplinary team was prepared for his arrival, having received a report from LRMC and the MEDEVAC coordinator. The Trauma Service and Neurosurgery team were quick to evaluate and discuss treatment options with his parents while supporting them as they lovingly stood by their son's bedside. Despite their best efforts, the patient's injuries were too severe and, consequently, he passed away shortly thereafter. All members of the health care team felt the tragic loss of this individual's life. Those directly involved with this marine's care spent additional time with the family, encouraging them to reminisce about his childhood and love of the Marine Corps. Others provided support to the direct care givers, assisting them with performing postmortem care, completing miscellaneous documents, and providing care to their other patients. Many discussed the death quietly among themselves, acknowledging the harsh realities of war, as a means to cope with the situation at hand. In the end, the staff felt some comfort in knowing that they did all that they could to assist the patient and his family during this difficult time.

Another example involved a marine in his early twenties who succumbed to severe abdominal and orthopedic injuries. Having been in the ICU for approximately 1 week, the staff established a relationship with the family, particularly the patient's mother, wife, and young daughter. When his death occurred, it was particularly difficult because the family was not ready to let go and became quite distraught with his passing. To deal effectively with this situation, the staff required the support of the psychiatrist and chaplain on duty to assist with the wife's distressed reaction and their own response to the gravity of the situation. Periodic sessions were then established with the Psychiatry Service to assist the health care team in

dealing with the emotions they encountered while caring for these individuals and their family members. These sessions were found to be especially helpful in the early months of OIF/OEF, particularly with the increase in the numbers of casualties. Eventually, the sessions were not needed on a routine basis, although individual counseling is encouraged for anyone who needs support.

Joys of recovery

Despite the numerous experiences with death and loss, stories also exist of medical recovery and successful healing. One courageous marine sustained injury to both upper extremities, requiring two amputations, one above the elbow and another below the elbow. The courage and consistently optimistic attitude displayed by this individual, and his parents who were both health care professionals, was truly admirable. He eventually transferred from the ICU to the surgical ward and was later discharged. He apparently returned to stateside duty, and reportedly was seen at a televised patriotic concert, proudly saluting during the ceremony honoring service members for their contributions during OIF/OEF. His recovery and eventual return to the workforce were an affirmation of the quality care provided by the health care team, enabling these brave men and women who have served our country the opportunity to live life as they so choose. The health care team is proud to be part of these individuals' recoveries.

Another example involved the care of a reporter who sustained severe closed head injuries. Having been treated at NNMC for more than 30 days, many of the health care team established a close rapport with this patient, his wife, children, and siblings. His room was decorated with photographs of family and friends, offering a snapshot of his love of life while facilitating the dialog of caregivers with the patient and his family. He was eventually stabilized and then transferred to a rehabilitation facility for further treatment. The staff learned later that the patient and his family wanted to return to produce a story on what he had experienced, showcasing his care and those who were instrumental in his recovery. Many were touched by these actions and the televised report that ensued. The joy of this patient's recovery was evident on everyone's faces as they greeted the family at NNMC and during the televised report. The staff was proud that the job they perform on a daily basis received this recognition by one

patient on national television. Such recognition undoubtedly provided a boost to the health care team's morale, rejuvenating their ability to continue to do the job that they perform so well.

The nursing staff frequently receives pictures and letters from patients or their families. Often, patients and family members visit the unit after recuperating from their injuries. These visits are very special and meaningful for the staff, providing a feeling of extreme accomplishment. The staff will talk about it for days and will make sure that everyone knows how this service member is doing. A bulletin board in the ICU has notes tacked up on it. Every day, one finds the staff members eating lunch and reading all the notes on the board. At times, one hears, "I can't believe how well he is doing." The sense of pride in a job well done resounds throughout the ICU.

Summary

The emotions that an ICU health care provider experiences on a daily basis can certainly vary, depending on the outcomes of the patients served. Each individual may cope with these emotionally straining patient care scenarios in a personal and unique manner; however, they do find the courage and strength to provide the quality care required with the utmost professionalism and dedication. Caring for this patient population is awe inspiring and fulfills this special health care team's patriotic duty to serve their country during this time of war.

Every single member of the entire health team at NNMC is important in helping the service member and family cope with, and deal with, the anguish of sustained injuries and the need for extensive hospital stays. From the kitchen and nutrition staff, to the housekeeping and maintenance staff, to the professional and nonprofessional divisions, the unwavering commitment from the entire command is incredible. Family members will often write to NNMC about acts of kindness they have received and the letters will be filled with amazement about how so many people, from so many different departments, interacted with them in a memorable way during such a stressful time in their lives.

Acknowledgment

The authors would like to give a special thank you to Susan Dionne, RN, MSN, CAPT, NC, USN for her support in this project.

References

- [1] NNMC homepage. Available at: http://www.bethesda.med.navy.mil/Visitor/About_Us/. Accessed April 1, 2007.
- [2] USNS Comfort (T-AH 20). Available at: <http://www.comfort.navy.mil/history.html>. Accessed April 1, 2007.
- [3] NNMC Casualty Affairs Database. Retrieved March 4, 2007 from NNMC restricted share drive.
- [4] Glasser R. A shock wave of brain injuries. The Washington Post April 8, 2007; p. B1, B5.
- [5] Hickey JV. The clinical practice of neurological and neurosurgical nursing. 5th edition. Philadelphia: Lippincott Williams & Wilkins; 2003.
- [6] Quilts for valor. 2006. Available at: <http://www.houseofhanson.com/qov.html>. Accessed April 21, 2007.
- [7] Dictionary.com. 2007. Available at: <http://www.dictionary.com>. Accessed: April 16, 2007.
- [8] Fuentes G. Posthumous honor: corporal's medal of honor is first for marine since Vietnam. Navy Times November 27, 2006;20.